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NOAA Technical Memorandum NWS WR-186



ANNUAL DATA AND VERIFICATION TABULATION
EASTERN NORTH PACIFIC TROPICAL STORMS AND HURRICANES 1983

Salt Lake City, Utah
March 1984

N.O.A.A.
U.S. Dept. of Commerce

APR 12 1984

**U.S. DEPARTMENT OF
COMMERCE**

National Oceanic and
Atmospheric Administration

National Weather
Service



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E. B. Gunther and R. L. Cross

Eastern Pacific Hurricane Center
San Francisco, California
March 1984

UNITED STATES
DEPARTMENT OF COMMERCE
Malcolm Baldrige, Secretary

National Oceanic and
Atmospheric Administration
John V. Byrne, Administrator

National Weather
Service
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This publication has been reviewed
and is approved for publication by
Scientific Services Division,
Western Region.



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I. INTRODUCTION

This is the fifth report of an annual series covering eastern north Pacific tropical cyclone activity. Data are provided by the National Weather Service, the National Earth Satellite Service Field Station - San Francisco, California, and the Chief, Aerial Reconnaissance Coordination, all Hurricanes (CARCAH), Miami, Florida.

II. OBJECTIVE FORECAST TECHNIQUES

Tropical cyclone prediction models used by Eastern Pacific Hurricane Center (EPHC) forecasters include:

1. EPHC77 (Leftwich and Neumann, 1977). A statistical-synoptic model.
2. EPHC81 (Leftwich, 1981). A statistical-dynamic model.
3. EPCLIPER (Neumann, 1972). A simulated analog model based on persistence and climatology.
4. EPANALOG (Jarrell, Mauck, and Renard, 1975). An analog model.
5. SANBAR (Sanders and Burpee, 1968). A filtered barotropic model.

In addition to the above models, forecasters also make use of NMC analyses and prognoses.

III. VERIFICATION

Verification statistics for the 1983 season are shown in Table 1. The forecast displacement error is the vector difference between the forecast displacement and the actual displacement computed from best-track positions. The initial position error is not subtracted from the forecast error, and depressions are not verified.

IV. DATA SUMMARIES

A summary of the 1983 eastern north Pacific tropical cyclone statistics is given in Table 2. Best track, operational positions, and position errors are given in Tables 3-26.

U.S. Air Force reconnaissance aircraft made three penetrations into Hurricane Ismael in mid August and two penetrations into Hurricane Manuel in September. NOAA research aircraft also analyzed two storms. One penetration was made into Hurricane Raymond while two penetrations were made into Hurricane Tico, both in October.

Even as satellite imagery continues to improve and is one of the more important tools used by tropical forecasters, aircraft reconnaissance and ship reports are invaluable in providing comparative observations.

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TABLE 1

Verification of 1983 Tropical Storm and Hurricane Forecasts

Forecast Method	Forecasts Displacement Errors in Nautical Miles (Errors/Cases)		
	24HR	48HR	72HR
OFFICIAL	86/362	172/288	237/219
EPMANALOG	88/346	170/282	235/211
EPHC77	89/340	174/277	251/213
CLIPER	87/349	175/285	242/219
EPHC81	90/142	175/121	252/93

TABLE 2

Summary of Eastern North Pacific Tropical Cyclones 1983
(Includes only those Storms that Reached Hurricane HU or Tropical Storm TS)

NO.	NAME	CLASS	DATES	MAX(KTS)	DAMAGE	DEATHS
					(\$million)	
1	ADOLPH	HU	21-28 MAY	95		
2	BARBARA	HU	9-18 JUN	115		
3	COSME	TS	2-5 JUL	35		
4	DALILIA	TS	5-12 JUL	60		
5	ERICK	TS	12-16 JUL	55		
6	FLOSSIE	TS	17-21 JUL	50		
7	GIL	HU	23 JUL-1 AUG	80		
8	HENRIETTE	HU	27 JUL-6 AUG	115		
10	ISMAEL	HU	8-14 AUG	85		
12	JULIETTE	TS	24 AUG-1 SEP	50		
13	KIKO	HU	31 AUG-9 SEP	125		
14	LORENA	HU	6-14 SEP	100		
15	MANUEL	HU	12-20 SEP	100		
16	NARDA	TS	21-27 SEP	50		
17	OCTAVE	TS	27 SEP-2 OCT	45		
18	PRISCILLA	HU	30 SEP-7 OCT	100		
19	RAYMOND	HU	8-14 OCT	125		
20	SONIA	TS	9-12 OCT	35		
21	TICO	HU	11-19 OCT	115	66*	9*
23	VELMA	TS	1-3 NOV	35		
24	WINNIE	HU	4-7 DEC	80		

*MEXICO

ADOLPH

DATE/TIME E.G.T.	BEST TRACK LAT.	LONG. LONG.	OPERATIONAL POSITION			24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST		
			POSITION ERR. (N.MI.)	LAT. (N.MI.)	LONG. (N.MI.)									
52100	92.0	92.0	9.0	93.0	93.0	0.0	93.0	93.0	0.0	93.0	93.0	0.0	93.0	93.0
52106	93.0	93.0	0.0	94.3	94.3	0.0	94.3	94.3	0.0	94.3	94.3	0.0	94.3	94.3
52112	94.3	94.3	0.0	94.9	94.9	0.0	94.9	94.9	0.0	94.9	94.9	0.0	94.9	94.9
52118	94.9	94.9	0.0	94.9	94.9	0.0	94.9	94.9	0.0	94.9	94.9	0.0	94.9	94.9
52200	96.0	96.0	0.0	96.0	96.0	0.0	96.0	96.0	0.0	96.0	96.0	0.0	96.0	96.0
52206	97.0	97.0	0.0	97.3	97.3	0.0	97.3	97.3	0.0	97.3	97.3	0.0	97.3	97.3
52212	97.2	97.2	0.2	97.4	97.4	0.2	97.4	97.4	0.2	97.4	97.4	0.2	97.4	97.4
52218	97.9	97.9	0.0	98.5	98.5	0.0	98.5	98.5	0.0	98.5	98.5	0.0	98.5	98.5
52300	98.4	98.7	0.4	99.4	99.4	0.0	99.4	99.4	0.0	99.4	99.4	0.0	99.4	99.4
52306	99.7	100.5	0.0	100.5	100.5	0.0	100.5	100.5	0.0	100.5	100.5	0.0	100.5	100.5
52312	101.0	101.0	0.0	101.0	101.0	0.0	101.0	101.0	0.0	101.0	101.0	0.0	101.0	101.0
52318	101.5	101.5	0.0	101.5	101.5	0.0	101.5	101.5	0.0	101.5	101.5	0.0	101.5	101.5
52400	102.4	102.4	0.0	102.4	102.4	0.0	102.4	102.4	0.0	102.4	102.4	0.0	102.4	102.4
52406	102.6	102.2	1.4	103.2	103.2	0.0	103.2	103.2	0.0	103.2	103.2	0.0	103.2	103.2
52412	103.0	103.0	0.0	103.0	103.0	0.0	103.0	103.0	0.0	103.0	103.0	0.0	103.0	103.0
52418	104.5	104.5	0.0	104.5	104.5	0.0	104.5	104.5	0.0	104.5	104.5	0.0	104.5	104.5
52500	105.6	105.6	0.0	105.6	105.6	0.0	105.6	105.6	0.0	105.6	105.6	0.0	105.6	105.6
52506	105.5	105.5	0.0	105.5	105.5	0.0	105.5	105.5	0.0	105.5	105.5	0.0	105.5	105.5
52512	105.7	105.7	0.0	105.7	105.7	0.0	105.7	105.7	0.0	105.7	105.7	0.0	105.7	105.7
52518	106.4	106.4	0.0	106.4	106.4	0.0	106.4	106.4	0.0	106.4	106.4	0.0	106.4	106.4
52600	106.5	106.3	0.2	106.3	106.3	0.0	106.3	106.3	0.0	106.3	106.3	0.0	106.3	106.3
52606	106.6	106.6	0.0	106.6	106.6	0.0	106.6	106.6	0.0	106.6	106.6	0.0	106.6	106.6
52612	106.9	106.9	0.0	106.9	106.9	0.0	106.9	106.9	0.0	106.9	106.9	0.0	106.9	106.9
52618	107.5	107.5	0.0	107.5	107.5	0.0	107.5	107.5	0.0	107.5	107.5	0.0	107.5	107.5
52700	107.4	107.4	0.0	107.4	107.4	0.0	107.4	107.4	0.0	107.4	107.4	0.0	107.4	107.4
52706	107.6	107.6	0.0	107.6	107.6	0.0	107.6	107.6	0.0	107.6	107.6	0.0	107.6	107.6
52712	107.9	107.9	0.0	107.9	107.9	0.0	107.9	107.9	0.0	107.9	107.9	0.0	107.9	107.9
52718	108.5	108.5	0.0	108.5	108.5	0.0	108.5	108.5	0.0	108.5	108.5	0.0	108.5	108.5
52800	109.7	109.6	0.1	109.6	109.6	0.0	109.6	109.6	0.0	109.6	109.6	0.0	109.6	109.6
52806	109.2	109.2	0.0	109.2	109.2	0.0	109.2	109.2	0.0	109.2	109.2	0.0	109.2	109.2
52812	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52818	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

MEAN VECTOR ERRORS (N.MI.)
NUMBER OF CASES25,
24401,
16

TABLE 3.

BARBARA

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION ERROR (N.MI.)	24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST			
			LAT.	LONG.	ERROR (N.MI.)	LAT.	LONG.	ERROR (N.MI.)	LAT.	LONG.	ERROR (N.MI.)	
6 900	11.2 93.9	11.2 93.6	17.6	96.5	84.	12.4	99.5	143.	13.8	104.3	134.	
6 906	11.2 95.1	11.1 94.5	35.6	11.4	97.7	12.3	101.1	140.	13.8	105.8	109.	
6 912	11.2 96.2	11.1 96.7	29.9	11.5	102.2	93.	12.0	107.0	193.	12.5	111.6	211.
6 918	11.2 97.2	11.1 97.9	41.4	11.5	102.7	121.	12.5	107.0	180.	13.2	111.8	170.
61000	11.1 98.1	11.3 97.9	16.7	12.3	101.8	67.	13.8	105.8	124.	14.8	108.8	122.
61006	11.0 99.3	11.0 99.4	5.8	11.2	103.3	6.	12.4	107.1	6.	14.8	111.1	97.
61012	11.0 100.5	11.0 100.7	11.7	11.6	105.4	96.	12.8	109.7	102.	13.8	113.2	131.
61018	11.0 101.6	11.0 100.7	52.6	11.4	104.6	6.	12.0	107.8	84.	12.8	111.9	48.
61100	11.0 102.5	11.2 101.6	53.8	12.0	105.3	12.	13.2	108.8	76.	13.8	113.0	47.
61106	11.1 103.1	11.2 103.2	8.3	12.0	106.8	35.	13.3	110.6	6.	15.4	114.2	130.
61112	11.3 103.7	11.3 103.8	5.6	12.3	107.2	47.	13.8	110.8	27.	15.5	114.5	122.
61118	11.5 104.5	11.5 104.1	23.2	12.6	107.3	95.	14.0	110.8	51.	15.4	114.1	81.
61200	11.9 105.5	11.8 105.3	13.0	13.2	108.0	123.	14.4	110.7	97.	16.0	114.3	72.
61206	12.2 106.7	12.5 107.1	29.2	14.6	110.7	79.	16.4	114.0	173.	17.4	117.3	231.
61212	12.5 107.8	12.4 108.0	13.0	13.6	112.8	106.	15.0	117.2	242.	16.4	121.0	405.
61218	12.9 109.0	12.9 108.9	5.7	14.6	113.1	114.	15.2	116.9	216.	16.8	120.7	389.
61300	13.1 109.9	13.2 110.1	13.0	14.4	114.1	118.	15.3	118.0	250.	16.0	121.5	431.
61306	13.3 110.4	13.3 110.5	5.7	14.2	113.3	42.	15.0	116.2	128.	15.7	119.4	331.
61312	13.4 111.0	13.4 111.0	0.0	14.2	113.6	29.	15.1	116.3	139.	16.1	119.5	356.
61318	13.5 111.5	13.5 111.5	0.0	14.1	113.8	31.	14.8	116.3	163.	15.3	119.2	292.
61400	13.6 112.2	13.7 112.2	6.0	14.3	114.9	78.	15.0	118.2	268.	15.5	121.5	392.
61406	13.7 112.6	13.8 112.7	8.3	14.7	115.2	76.	15.7	118.0	257.	16.5	120.8	341.
61412	13.9 113.1	13.9 113.2	5.7	14.5	115.3	108.	15.1	117.5	283.	15.6	120.4	319.
61418	14.3 113.6	14.3 113.3	17.0	15.6	114.6	61.	16.7	116.3	115.	18.2	117.9	81.
61500	14.7 113.8	14.9 113.7	13.2	17.2	114.9	46.	20.2	115.4	85.	24.1	114.3	320.
61506	15.1 114.0	15.2 114.0	6.0	17.2	114.0	24.	18.3	113.6	153.	19.7	110.0	469.
61512	15.7 114.1	15.8 114.0	8.2	17.7	113.9	31.	18.8	113.4	179.	20.1	111.0	0.
61518	16.4 114.1	16.5 114.1	6.0	19.3	113.6	100.	22.4	115.0	210.	26.0	0.0	0.
61600	17.0 114.2	17.1 114.1	8.2	17.2	114.1	118.	22.9	111.5	393.	0.0	0.0	0.
61606	17.5 114.3	17.6 114.0	18.0	20.0	112.8	164.	22.7	109.3	528.	0.0	0.0	0.
61612	18.0 114.5	18.2 113.8	4.3	20.2	113.0	203.	22.5	108.1	0.	0.0	0.0	0.
61618	18.5 115.0	18.3 115.2	16.5	18.9	117.7	43.	18.8	120.8	0.	18.5	123.5	0.
61700	18.8 115.5	18.8 115.6	5.6	18.8	115.6	133.	20.3	121.4	0.	0.0	0.0	0.
61706	19.0 116.0	19.3 116.3	19.3	28.9	0.0	0.	0.0	0.	0.	0.0	0.0	0.
61712	19.3 116.5	19.4 116.5	8.2	0.0	0.	0.	0.0	0.	0.	0.0	0.0	0.
61718	19.5 117.1	19.5 117.5	22.4	0.0	0.	0.	0.0	0.	0.	0.0	0.0	0.
61800	19.8 117.7	19.8 117.7	0.0	0.0	0.	0.	0.0	0.	0.	0.0	0.0	0.
61806	20.0 118.4	20.0 118.3	5.6	0.0	0.	0.	0.0	0.	0.	0.0	0.0	0.
61812	0.0 0.0	0.0 0.0	0.0	0.0	0.	0.	0.0	0.	0.	0.0	0.0	0.
61818	0.0 0.0	0.0 0.0	0.0	0.0	0.	0.	0.0	0.	0.	0.0	0.0	0.

MEAN VECTOR ERRORS (N.MI.)
NUMBER OF CASES

78.
33

224.
26.

COSME

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION LAT., LONG. (N,MI.)	POSITION ERROR (N,MI.)			LAT., LONG., (N,MI.)	LAT., LONG., (N,MI.)	LAT., LONG., (N,MI.)	LAT., LONG., (N,MI.)	
			24 HOUR FORECAST ERROR	48 HOUR FORECAST ERROR	72 HOUR FORECAST ERROR					
7 200	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.
7 206	10.5	109.5	10.5	109.5	0.0	11.3	113.3	84.	12.1	117.1
7 212	10.8	109.8	10.8	110.6	46.4	11.4	115.1	58.	12.1	119.5
7 218	11.3	109.9	12.0	111.8	117.3	13.0	116.9	164.	13.8	121.5
7 300	11.7	110.0	12.5	112.4	146.4	13.6	115.7	296.	0.0	0.0
7 306	12.0	110.0	12.7	113.3	194.8	13.2	115.1	216.	0.0	0.
7 312	12.3	110.3	11.0	114.2	238.0	11.5	118.0	323.	0.0	0.
7 318	12.7	110.4	11.0	115.0	284.1	11.4	118.7	356.	0.0	0.
7 400	13.0	110.7	12.8	110.7	12.0	13.9	113.0	242.	15.0	116.0
7 406	14.0	111.4	13.2	111.4	48.0	14.9	114.3	190.	16.3	118.0
7 412	14.8	112.8	13.3	112.8	90.0	14.7	116.3	176.	16.3	119.5
7 418	15.5	114.3	15.7	114.5	16.6	18.0	118.5	60.	0.0	0.
7 500	16.4	115.7	16.7	116.0	25.0	18.3	120.8	0.	0.0	0.
7 506	16.7	117.0	16.7	117.0	0.0	18.0	120.9	0.	0.0	0.
7 512	17.0	118.2	17.0	118.2	0.0	18.0	122.6	0.	0.0	0.
7 518	17.6	119.4	17.7	119.5	6.3	29.0	123.5	0.	0.0	0.

MEAN VECTOR ERRORS (N,MI)
NUMBER OF CASES

197,
11

387,
3

374,
3

TABLE 5.

DALILIA

DATE/TIME (GMT)	BEST TRACK LAT.	TRACK LONG.	OPERATIONAL		POSITION ERROR (N.MI.)		24 HOUR FORECAST		48 HOUR FORECAST		72 HOUR FORECAST	
			LAT.	LONG.	LAT.	LONG.	LAT.	LONG.	LAT.	LONG.	LAT.	LONG.
7 500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 506	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 512	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 518	12.2	101.4	12.1	101.4	6.0	12.8	104.8	17.1	14.3	108.3	108.	15.7
7 600	12.4	102.3	12.8	102.4	24.7	14.1	106.6	98.	15.7	110.4	112.	112.5
7 606	12.7	103.1	12.6	104.0	51.6	13.7	108.5	146.	14.9	112.5	235.	16.2
7 612	13.1	104.0	12.7	105.0	61.8	13.5	109.4	153.	14.9	113.8	277.	16.0
7 618	13.5	104.7	13.0	104.6	30.5	13.9	108.0	133.	15.3	111.5	272.	16.5
7 700	13.9	105.6	13.2	105.2	47.8	14.1	108.3	186.	16.3	115.2	233.	16.3
7 706	14.5	106.5	13.8	106.0	50.7	15.3	109.4	166.	16.4	113.5	253.	17.7
7 712	15.3	107.4	14.3	106.9	66.3	16.0	110.4	193.	17.6	113.8	268.	18.5
7 718	16.1	108.2	16.1	108.2	0.0	18.9	111.8	80.	21.0	115.0	182.	22.6
7 800	16.9	109.2	17.1	109.1	13.2	20.3	112.1	130.	22.7	113.6	373.	25.0
7 806	18.0	110.3	18.0	110.0	16.7	21.0	113.4	143.	22.5	115.5	319.	24.0
7 812	18.9	111.5	19.0	111.6	8.2	22.1	115.0	165.	24.4	117.3	359.	25.9
7 818	19.6	113.0	19.6	113.0	0.0	22.4	117.0	132.	24.8	119.1	357.	25.6
7 900	20.0	114.4	20.1	114.4	6.0	21.9	119.0	101.	24.0	121.0	283.	0.0
7 906	20.3	115.8	20.2	115.8	6.0	21.8	120.8	90.	23.3	125.0	211.	0.0
7 912	20.5	117.0	20.5	117.4	22.1	21.3	122.8	93.	21.9	127.0	169.	0.0
7 918	20.6	118.2	20.5	118.2	6.0	20.9	122.1	70.	0.0	0.0	0.0	0.0
71000	20.5	119.4	20.4	119.8	22.9	20.1	124.8	62.	0.0	0.0	0.0	0.0
71006	20.3	120.6	20.3	120.7	5.5	20.3	125.0	38.	0.0	0.0	0.0	0.0
71012	20.2	121.8	20.2	121.9	5.5	20.3	126.3	74.	0.0	0.0	0.0	0.0
71018	20.0	122.9	20.0	122.9	0.0	20.0	126.9	26.	0.0	0.0	0.0	0.0
71100	19.9	123.8	20.0	123.7	8.2	19.8	127.4	0.	0.0	0.0	0.0	0.0
71106	19.8	124.7	19.8	124.6	5.5	19.8	126.3	0.	0.0	0.0	0.0	0.0
71112	19.7	125.5	19.1	126.6	70.7	18.8	131.5	0.	0.0	0.0	0.0	0.0
71118	19.6	126.5	19.8	126.5	12.5	20.1	130.3	0.	0.0	0.0	0.0	0.0

MEAN VECTOR ERRORS (N.MI)
NUMBER OF CASES

109.
21

351.
16

TABLE 6.

ERICK

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION LAT., LONG. (N.MI.)	24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST		
			POSITION ERROR (N.MI.)	LAT. (N.HI)	LONG. (N.HI)	POSITION ERROR (N.MI.)	LAT. (N.HI)	LONG. (N.HI)	POSITION ERROR (N.MI.)	LAT. (N.HI)	LONG. (N.HI)
71200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71206	10.6	103.7	10.5	104.0	10.3	11.5	107.9	32.	12.7	111.2	163.
71212	10.7	104.5	11.2	103.5	64.8	12.3	107.4	71.	13.4	111.2	255.
71218	10.8	105.5	11.1	105.0	34.0	11.8	108.9	73.	12.4	112.8	255.
71300	11.2	106.5	10.7	106.7	32.2	11.0	110.7	188.	11.3	114.1	14.1
71306	11.8	107.5	11.0	107.7	49.4	11.5	111.8	233.	12.1	116.1	393.
71312	12.4	108.6	12.4	108.6	0.0	14.8	112.7	134.	16.2	116.6	393.
71318	13.2	110.0	12.8	109.6	33.1	14.5	113.7	157.	15.6	117.9	117.7
71400	14.2	111.4	14.0	111.6	16.6	15.9	116.0	98.	18.1	119.6	214.
71406	15.2	112.8	15.2	113.0	11.4	17.6	116.2	61.	18.6	122.2	73.
71412	16.1	114.0	16.2	114.5	29.2	18.9	118.9	31.	19.9	123.2	93.
71418	16.9	115.0	16.8	115.0	6.0	19.5	120.4	103.	20.2	122.2	201.
71500	17.6	116.1	17.5	116.3	12.9	21.2	122.2	177.	20.7	123.7	201.
71506	18.3	117.0	18.5	117.7	41.7	22.0	124.1	242.	0.0	0.0	21.3
71512	18.7	117.8	19.4	118.9	75.5	0.0	0.0	0.	0.0	0.0	0.
71518	19.2	118.7	19.3	118.6	8.3	0.0	0.0	0.	0.0	0.0	0.
71600	19.4	119.6	19.3	119.8	12.9	0.0	0.0	0.	0.0	0.0	0.
71606	19.5	120.4	19.4	120.8	23.6	0.0	0.0	0.	0.0	0.0	0.
71612	19.6	121.1	19.3	121.3	43.8	0.0	0.0	0.	0.0	0.0	0.
71618	19.7	121.9	19.6	121.7	6.0	0.0	0.0	0.	0.0	0.0	0.

MEAN VECTOR ERRORS (N.MI)
NUMBER OF CASES

123.
143

203.
11

TABLE 7.

FLOSSIE

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL		POSITION		24 HOUR FORECAST		48 HOUR FORECAST		72 HOUR FORECAST	
		POSITION LAT., LONG.	ERROR (N, MI.)								
71700	18.3	104.9	16.4	105.0	114.1	15.7	108.7	204.	16.8	110.2	171.
71706	18.0	104.9	15.8	105.7	139.6	15.1	109.2	217.	15.9	111.0	225.
71712	17.7	105.0	15.4	106.5	162.2	14.9	110.1	241.	15.7	112.9	242.
71718	17.5	105.1	17.2	105.3	21.3	16.7	106.7	187.	17.1	108.0	306.
71800	17.6	106.1	17.5	105.7	23.3	18.1	107.4	154.	19.7	109.0	269.
71806	18.0	107.1	17.4	106.3	57.6	17.6	107.9	186.	18.5	109.7	292.
71812	18.5	108.0	17.6	107.0	78.0	18.1	109.8	128.	0.0	0.0	0.
71818	18.9	108.8	19.1	108.8	12.0	21.3	112.1	60.	23.0	114.6	187.
71900	19.3	109.5	19.6	109.6	18.9	21.6	112.9	51.	23.0	115.2	192.
71906	19.7	110.5	19.6	110.4	8.2	20.7	113.8	36.	22.0	115.7	126.
71912	20.0	111.3	19.5	111.5	32.0	20.2	115.5	18.	21.4	118.6	71.
71918	20.3	112.2	20.3	112.2	0.0	22.8	115.7	147.	23.5	118.3	0.
72000	20.5	113.2	20.8	113.2	18.0	22.0	116.7	93.	22.7	119.5	0.
72006	20.5	114.4	20.5	114.4	0.0	20.9	118.2	23.	21.6	121.0	0.
72012	20.5	115.5	20.5	115.5	0.0	20.6	119.5	16.	20.8	123.0	0.
72018	20.5	116.6	20.5	116.6	0.0	20.9	120.7	0.	21.1	124.1	0.
72100	20.6	117.6	20.7	117.6	6.0	21.2	121.4	0.	22.1	125.2	0.
72106	20.8	118.6	20.8	118.6	0.0	0.0	0.0	0.	0.0	0.0	0.
72112	20.8	119.7	20.8	119.7	0.0	0.0	0.0	0.	0.0	0.0	0.
72118	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.

MEAN VECTOR ERRORS (N, MI)
NUMBER OF CASES

117.
15

208.
10

TABLE 8.

287.
6

DATE/TIME (GMT)	BEST TRACK LAT., LONG.,	OPERATIONAL POSITION LAT., LONG.,	24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST		
			POSITION (N.MI.)	ERROR (N.MI.)	LAT., LONG., (N.MI.)	POSITION (N.MI.)	ERROR (N.MI.)	LAT., LONG., (N.MI.)	POSITION (N.MI.)	ERROR (N.MI.)	LAT., LONG., (N.MI.)
72300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72306	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72312	11.0	05.3	11.0	05.0	95.0	17.5	12.1	99.3	39.	15.4	103.6
72318	11.3	05.6	11.3	05.3	96.6	12.0	12.3	100.9	113.	15.7	105.
72400	11.5	06.2	11.5	06.0	97.7	29.1	12.8	102.2	165.	14.6	106.7
72406	11.7	06.7	11.7	06.4	98.7	6.0	12.2	103.9	131.0	13.0	115.6
72412	11.9	07.1	11.9	07.0	100.9	23.3	12.9	106.0	106.	14.4	111.5
72418	12.0	07.6	12.0	07.5	102.8	12.0	13.0	108.8	134.	14.5	115.5
72500	12.2	08.2	12.2	08.0	105.0	49.0	13.9	111.2	207.	14.5	115.0
72506	12.3	08.5	12.3	08.7	105.9	42.9	14.3	111.7	135.	15.7	116.5
72512	12.3	08.6	12.3	08.5	107.1	6.6	14.8	113.0	166.	12.0	117.7
72518	12.3	08.7	12.4	08.4	106.6	40.9	15.0	110.5	106.	14.9	114.5
72600	12.3	08.8	12.4	08.6	108.0	13.0	16.8	112.5	70.	15.0	116.9
72606	12.2	08.9	12.1	08.4	109.4	6.0	16.0	112.7	78.	15.0	118.0
72612	12.0	09.0	12.0	08.7	112.2	11.0	12.0	114.6	35.	15.0	121.7
72618	11.8	09.1	11.2	08.6	112.0	24.1	12.9	114.7	192.	13.1	123.4
72700	11.7	09.2	11.2	08.8	113.1	18.8	13.0	117.1	92.	12.5	124.8
72706	11.5	09.3	11.3	09.4	114.0	18.8	14.6	118.0	142.	12.5	127.0
72712	12.3	09.3	12.3	09.0	114.0	12.0	14.0	116.3	174.	14.0	114.5
72718	13.0	09.6	11.6	09.0	116.0	14.0	12.4	119.7	205.	15.0	122.5
72800	13.7	10.7	12.7	10.6	117.4	6.1	21.0	121.0	92.	14.0	124.7
72806	14.5	11.8	14.4	11.4	118.7	41.0	18.8	122.1	122.	12.5	126.7
72812	15.4	11.9	15.0	11.6	119.6	15.0	16.0	116.3	174.	14.0	127.0
72818	16.2	12.1	15.1	11.9	121.1	6.1	16.0	120.7	205.	15.0	129.4
72820	16.9	12.2	15.1	12.0	121.0	16.0	16.0	121.0	92.	15.0	130.4
72904	17.5	12.3	15.5	12.5	121.7	21.0	17.0	122.7	122.	15.0	131.5
72912	18.0	12.5	15.0	12.5	121.4	125.0	18.0	123.0	124.	15.0	132.0
72918	18.6	12.6	15.6	12.6	121.6	12.6	18.0	123.1	125.	15.0	132.6
73000	19.3	12.7	16.0	12.6	122.6	12.6	18.0	123.2	125.	15.0	133.2
73006	19.8	12.9	16.0	12.9	122.9	12.9	18.0	123.4	125.	15.0	133.4
73012	20.3	13.0	16.0	12.8	123.0	12.0	18.0	123.5	125.	15.0	133.5
73018	20.4	13.0	16.0	12.8	123.0	12.0	18.0	123.6	125.	15.0	133.6
73100	20.6	13.3	16.3	12.6	123.6	12.6	18.0	123.7	125.	15.0	133.7
73106	20.7	13.4	16.4	12.6	123.7	12.6	18.0	123.8	125.	15.0	133.8
73112	20.8	13.6	16.4	12.7	123.8	12.7	18.0	123.9	125.	15.0	133.9
73118	21.0	13.7	16.5	12.8	124.0	12.8	18.0	124.0	125.	15.0	134.0
73124	21.0	13.8	16.5	12.8	124.0	12.8	18.0	124.1	125.	15.0	134.1
73130	21.0	13.8	16.5	12.8	124.0	12.8	18.0	124.2	125.	15.0	134.2
73136	21.0	13.8	16.5	12.8	124.0	12.8	18.0	124.3	125.	15.0	134.3
73142	21.0	13.8	16.5	12.8	124.0	12.8	18.0	124.4	125.	15.0	134.4
73148	21.0	13.8	16.5	12.8	124.0	12.8	18.0	124.5	125.	15.0	134.5
73154	21.0	13.8	16.5	12.8	124.0	12.8	18.0	124.6	125.	15.0	134.6
73160	21.0	13.8	16.5	12.8	124.0	12.8	18.0	124.7	125.	15.0	134.7
73166	21.0	13.8	16.5	12.8	124.0	12.8	18.0	124.8	125.	15.0	134.8
73172	21.0	13.8	16.5	12.8	124.0	12.8	18.0	124.9	125.	15.0	134.9
73178	21.0	13.8	16.5	12.8	124.0	12.8	18.0	125.0	125.	15.0	135.0
73184	21.0	13.8	16.5	12.8	124.0	12.8	18.0	125.1	125.	15.0	135.1
73190	21.0	13.8	16.5	12.8	124.0	12.8	18.0	125.2	125.	15.0	135.2
73196	21.0	13.8	16.5	12.8	124.0	12.8	18.0	125.3	125.	15.0	135.3
73202	21.0	13.8	16.5	12.8	124.0	12.8	18.0	125.4	125.	15.0	135.4
73208	21.0	13.8	16.5	12.8	124.0	12.8	18.0	125.5	125.	15.0	135.5
73214	21.0	13.8	16.5	12.8	124.0	12.8	18.0	125.6	125.	15.0	135.6
73220	21.0	13.8	16.5	12.8	124.0	12.8	18.0	125.7	125.	15.0	135.7
73226	21.0	13.8	16.5	12.8	124.0	12.8	18.0	125.8	125.	15.0	135.8
73232	21.0	13.8	16.5	12.8	124.0	12.8	18.0	125.9	125.	15.0	135.9
73238	21.0	13.8	16.5	12.8	124.0	12.8	18.0	126.0	125.	15.0	136.0
73244	21.0	13.8	16.5	12.8	124.0	12.8	18.0	126.1	125.	15.0	136.1
73250	21.0	13.8	16.5	12.8	124.0	12.8	18.0	126.2	125.	15.0	136.2
73256	21.0	13.8	16.5	12.8	124.0	12.8	18.0	126.3	125.	15.0	136.3
73262	21.0	13.8	16.5	12.8	124.0	12.8	18.0	126.4	125.	15.0	136.4
73268	21.0	13.8	16.5	12.8	124.0	12.8	18.0	126.5	125.	15.0	136.5
73274	21.0	13.8	16.5	12.8	124.0	12.8	18.0	126.6	125.	15.0	136.6
73280	21.0	13.8	16.5	12.8	124.0	12.8	18.0	126.7	125.	15.0	136.7
73286	21.0	13.8	16.5	12.8	124.0	12.8	18.0	126.8	125.	15.0	136.8
73292	21.0	13.8	16.5	12.8	124.0	12.8	18.0	126.9	125.	15.0	136.9
73298	21.0	13.8	16.5	12.8	124.0	12.8	18.0	127.0	125.	15.0	137.0
73304	21.0	13.8	16.5	12.8	124.0	12.8	18.0	127.1	125.	15.0	137.1
73310	21.0	13.8	16.5	12.8	124.0	12.8	18.0	127.2	125.	15.0	137.2
73316	21.0	13.8	16.5	12.8	124.0	12.8	18.0	127.3	125.	15.0	137.3
73322	21.0	13.8	16.5	12.8	124.0	12.8	18.0	127.4	125.	15.0	137.4
73328	21.0	13.8	16.5	12.8	124.0	12.8	18.0	127.5	125.	15.0	137.5
73334	21.0	13.8	16.5	12.8	124.0	12.8	18.0	127.6	125.	15.0	137.6
73340	21.0	13.8	16.5	12.8	124.0	12.8	18.0	127.7	125.	15.0	137.7
73346	21.0	13.8	16.5	12.8	124.0	12.8	18.0	127.8	125.	15.0	137.8
73352	21.0	13.8	16.5	12.8	124.0	12.8	18.0	127.9	125.	15.0	137.9
73358	21.0	13.8	16.5	12.8	124.0	12.8	18.0	128.0	125.	15.0	138.0
73364	21.0	13.8	16.5	12.8	124.0	12.8	18.0	128.1	125.	15.0	138.1
73370	21.0	13.8	16.5	12.8	124.0	12.8	18.0	128.2	125.	15.0	138.2
73376	21.0	13.8	16.5	12.8	124.0	12.8	18.0	128.3	125.	15.0	138.3
73382	21.0	13.8	16.5	12.8	124.0	12.8	18.0	128.4	125.	15.0	138.4
73388	21.0	13.8	16.5	12.8	124.0	12.8	18.0	128.5	125.	15.0	138.5
73394	21.0	13.8	16.5	12.8	124.0	12.8	18.0	128.6	125.	15.0	138.6
73400	21.0	13.8	16.5	12.8	124.0	12.8	18.0	128.7	125.	15.0	138.7
73406	21.0	13.8	16.5	12.8	124.0	12.8	18.0	128.8	125.	15.0	138.8
73412	21.0	13.8	16.5	12.8	124.0	12.8	18.0	128.9	125.	15.0	138.9
73418	21.0	13.8	16.5	12.8	124.0	12.8	18.0	129.0	125.	15.0	139.0
73424	21.0	13.8	16.5	12.8	124.0	12.8	18.0	129.1	125.	15.0	139.1
73430	21.0	13.8	16.5	12.8	124.0	12.8	18.0	129.2	125.	15.0	139.2
73436	21.0	13.8	16.5	12.8	124.0	12.8	18.0	129.3	125.	15.0	139.3
73442	21.0	13.8	16.5	12.8	124.0	12.8	18.0	129.4	125.	15.0	139.4
73448	21.0	13.8	16.5	12.8	124.0	12.8	18.0	129.5	125.	15.0	139.5
73454	21.0	13.8	16.5	12.8	124.0	12.8	18.0	129.6	125.	15.0	139.6</td

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NINE-E

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION ERROR (N.MI.)	24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST		
			LAT., LONG. (N.MI.)	LAT., LONG. (N.MI.)	ERROR (N.MI.)	LAT., LONG. (N.MI.)	LAT., LONG. (N.MI.)	ERROR (N.MI.)	LAT., LONG. (N.MI.)	LAT., LONG. (N.MI.)	ERROR (N.MI.)
8 300	11.2	105.0	11.0	105.0	12.0	12.2	109.9	65.	13.5	114.8	163.
8 306	11.4	106.2	11.3	106.4	13.0	12.5	111.0	90.	13.7	115.5	149.
8 312	12.0	107.3	12.0	107.4	5.8	13.9	111.9	82.	14.9	116.7	153.
8 318	12.4	108.1	12.5	108.6	29.4	14.2	113.4	117.	15.4	118.2	191.
8 400	12.8	108.9	12.2	108.8	36.5	12.9	112.4	97.	13.9	116.1	115.
8 406	13.2	109.8	12.2	109.5	62.4	12.9	113.6	116.	14.3	117.6	127.
8 412	13.7	110.6	14.0	110.5	18.9	15.6	114.2	19.	16.8	118.6	150.
8 418	14.1	111.3	14.1	111.4	5.7	15.6	115.1	17.	16.9	118.7	97.
8 500	14.5	112.2	14.5	112.2	0.0	15.8	115.6	13.	17.0	119.2	99.
8 506	14.8	113.1	14.8	113.2	5.7	15.8	117.5	70.	16.6	121.6	213.
8 512	15.1	113.9	15.3	114.1	16.6	16.9	118.0	116.	18.2	122.0	0.
8 518	15.5	114.7	15.4	114.9	12.9	16.5	118.9	107.	17.2	123.2	0.
8 600	15.8	115.3	15.7	115.4	8.3	16.7	118.6	93.	17.5	122.4	0.
8 606	16.3	116.0	16.0	116.3	24.9	17.3	119.4	87.	18.6	122.6	0.
8 612	16.8	116.7	16.7	116.0	40.6	19.0	117.3	0.	0.0	0.	19.6
8 618	17.3	117.3	17.4	117.3	6.0	19.4	120.2	0.	0.0	0.	0.
8 700	17.8	117.8	18.1	117.9	18.9	20.8	120.0	0.	0.0	0.	0.
8 706	0.0	0.0	18.4	118.4	0.0	0.0	0.0	0.	0.0	0.	0.
8 712	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.	0.
8 718	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.	0.

MEAN VECTOR ERRORS (N.MI.)
NUMBER OF CASES

278, 146,
14, 10, 6

TABLE 11.

ISMAEL

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION LAT., LONG.	POSITION ERROR (N.MI.)		24 HOUR FORECAST ERROR (N.MI.)		48 HOUR FORECAST ERROR (N.MI.)		72 HOUR FORECAST ERROR (N.MI.)	
			LAT.	LONG.	LAT.	LONG.	LAT.	LONG.	LAT.	LONG.
8 800	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 806	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 812	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 818	12.6	106.5	12.8	106.5	12.0	106.5	13.7	110.3	78.7	14.7
8 900	13.2	107.6	13.1	107.9	18.0	107.9	14.5	113.1	129.7	15.7
8 906	13.7	108.6	13.4	109.0	28.9	109.0	15.0	113.3	104.7	16.3
8 912	14.5	109.5	14.1	110.1	41.3	110.1	15.8	114.4	133.7	17.3
8 918	15.3	110.5	14.8	111.0	41.0	111.0	16.7	114.9	139.7	18.1
8 900	16.0	111.4	16.0	111.5	5.5	111.5	18.4	115.5	83.7	20.5
81006	16.6	112.1	16.3	112.1	18.0	112.1	18.2	115.4	106.7	19.7
81012	17.4	112.8	17.4	112.8	0.0	112.8	19.4	115.6	66.7	20.0
81018	18.4	113.5	18.6	113.5	12.0	113.5	21.8	116.1	38.7	24.0
81100	19.4	114.5	19.4	114.5	0.0	114.5	22.4	117.6	73.7	24.3
81106	20.0	115.0	19.9	114.9	8.0	114.9	22.3	117.1	35.7	24.1
81112	20.5	115.5	20.5	115.5	0.0	115.5	22.4	117.2	79.7	24.7
81118	21.2	115.9	21.2	115.9	0.0	115.9	24.1	116.9	12.7	27.0
81200	21.9	116.3	21.9	116.4	5.3	116.4	24.7	117.6	16.7	27.3
81206	22.5	116.5	22.5	116.5	0.0	116.5	24.8	117.0	34.7	26.8
81212	23.5	116.8	23.6	116.6	12.2	116.6	26.7	117.0	69.7	29.4
81218	24.3	117.0	24.2	117.1	8.0	117.1	27.4	118.2	43.7	30.7
81300	24.8	117.3	24.9	117.4	8.0	117.4	28.1	118.1	58.7	30.5
81306	25.3	117.6	25.3	117.3	15.9	117.3	27.4	117.5	102.7	28.3
81312	25.8	117.9	25.8	117.9	5.3	117.9	28.0	118.3	72.7	0.0
81318	26.7	118.3	26.7	118.4	5.3	118.4	29.5	120.0	0.7	0.0
81400	27.4	118.6	27.3	118.7	8.0	118.7	30.0	0.0	0.7	0.0
81406	28.0	118.7	28.2	119.0	19.9	119.0	30.0	0.0	0.7	0.0
81412	28.7	118.6	28.7	119.4	42.4	119.4	0.0	0.0	0.7	0.0
81418	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

MEAN VECTOR ERRORS (N.MI)
NUMBER OF CASES

74,
20

155,
16

300,
12

TABLE 12.

ELEVEN-E

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION LAT., LONG., (N, MI.)	POSITION ERROR (N, MI.)			LAT., LONG., (N, MI.)	LAT., LONG., (N, MI.)	LAT., LONG., (N, MI.)
			24 HOUR FORECAST ERROR (N, MI.)	48 HOUR FORECAST ERROR (N, MI.)	72 HOUR FORECAST ERROR (N, MI.)			
81500	22.0	110.3	22.0	110.2	5.5	22.3	110.7	112.4
81504	22.3	110.4	22.3	110.5	5.5	23.4	112.1	32.1
81512	22.7	110.9	23.0	110.8	18.8	25.0	112.3	62.4
81518	23.0	111.2	23.2	111.5	20.3	24.9	113.2	26.5
81600	23.4	111.4	23.8	111.9	36.4	25.8	113.7	26.9
81606	23.6	111.5	23.9	112.3	47.3	25.3	113.7	0.0
81612	23.8	111.6	23.8	111.6	0.0	24.8	112.1	0.0
81618	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN VECTOR ERRORS (N, MI.)								
NUMBER OF CASES			75.	3	0.	0.	0.	0.

TABLE 13.

JULIETTE

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION LAT., LONG. (N.MI.)		POSITION ERROR (N.MI.)		24 HOUR FORECAST LAT., LONG. (N.MI.)		48 HOUR FORECAST LAT., LONG. (N.MI.)		72 HOUR FORECAST LAT., LONG. (N.MI.)	
		POSITION ERROR (N.MI.)	POSITION ERROR (N.MI.)	POSITION ERROR (N.MI.)	POSITION ERROR (N.MI.)	POSITION ERROR (N.MI.)	POSITION ERROR (N.MI.)	POSITION ERROR (N.MI.)	POSITION ERROR (N.MI.)	POSITION ERROR (N.MI.)	POSITION ERROR (N.MI.)
82400	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
82406	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
82412	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
82418	11,2	107,4	11,2	107,4	0,0	12,3	110,9	78,	0,0	0,0	0,0
82500	11,8	108,3	11,8	108,3	0,0	13,8	111,8	25,	15,4	115,2	117,
82506	12,3	109,3	12,3	109,3	0,0	14,2	113,2	18,	15,6	116,9	97,
82512	12,9	110,1	12,9	110,1	0,0	14,9	113,9	108,	16,4	117,5	135,
82518	13,4	111,2	13,6	111,0	16,5	16,0	114,3	181,	18,1	117,1	144,
82600	13,7	112,4	14,1	112,1	29,5	15,9	115,9	125,	17,2	118,8	93,
82606	13,9	113,5	14,5	113,2	39,8	15,9	117,0	114,	17,0	120,7	191,
82612	13,8	114,5	14,0	115,5	58,3	14,6	120,2	130,	15,6	124,0	374,
82618	13,9	115,3	13,6	116,2	54,8	13,4	120,3	259,	14,3	125,3	459,
82700	14,1	116,0	13,9	116,5	31,0	15,7	120,0	165,	15,8	123,8	310,
82706	14,6	116,3	14,0	117,1	58,2	14,6	120,8	258,	15,5	124,0	307,
82712	15,0	116,6	14,2	118,0	93,2	15,0	121,4	256,	16,2	124,8	282,
82718	15,9	117,0	15,7	116,9	13,3	18,1	118,7	17,	19,8	120,7	110,
82800	16,4	117,3	16,6	117,3	0,0	19,7	119,2	72,	21,4	121,0	194,
82806	17,2	117,6	17,4	117,4	16,4	20,2	118,4	119,	21,9	120,1	236,
82812	17,8	118,0	17,5	117,8	21,2	19,5	118,7	131,	21,4	120,2	230,
82818	18,1	118,6	18,3	118,5	13,2	20,1	120,4	132,	21,6	122,4	192,
82900	18,2	119,1	18,5	119,2	18,9	20,0	121,7	103,	21,3	124,2	132,
82906	18,2	119,7	18,9	120,0	45,2	20,2	122,7	115,	21,2	125,6	98,
82912	19,3	120,3	19,2	121,0	66,7	20,5	124,4	167,	21,7	127,4	160,
82918	19,3	120,9	18,0	121,1	21,2	18,0	124,3	54,	18,7	127,3	155,
83000	19,4	121,6	18,3	122,0	23,2	18,9	125,2	54,	19,8	128,5	193,
83006	19,5	122,3	18,4	122,0	17,8	19,2	124,3	45,	0,0	0,0	15,5
83012	19,6	122,8	18,3	122,6	21,2	18,5	124,9	115,	0,0	0,0	17,0
83018	19,8	123,5	18,6	123,6	13,2	19,1	126,3	131,	0,0	0,0	16,7
83100	19,2	124,1	19,1	124,1	6,0	6,0	126,5	90,	0,0	0,0	17,5
83106	19,7	124,4	19,7	124,9	28,0	0,0	0,0	0,	0,0	0,0	21,3
83112	20,3	124,7	20,4	124,5	12,7	0,0	0,0	0,	0,0	0,0	22,0
83118	20,7	125,0	20,9	125,0	12,0	0,0	0,0	0,	0,0	0,0	127,0
9 100	21,2	125,4	21,2	125,4	0,0	0,0	0,0	0,	0,0	0,0	0,0
9 106	21,8	125,8	22,0	126,0	16,4	0,0	0,0	0,	0,0	0,0	127,9
9 112	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,	0,0	0,0	0,0
9 118	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,	0,0	0,0	0,0

MEAN VECTOR ERRORS (N.MI)
NUMBER OF CASES

118,
26

203,
24

243,
14

NAME/TIME SHT/T GHT/	EEST/ TRACK LAT., LONG.	OPERATIONAL POSITION ERROR (N.MI.)	24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST		
			LAT.	LONG.	ERROR (N.MI.)	LAT.	LONG.	ERROR (N.MI.)	LAT.	LONG.	ERROR (N.MI.)
83100	0.0 101.3	102.1 101.7	49.3 102.1	52.1 102.1	105.3 105.7	105.3 105.7	105.3 105.7	105.3 105.7	105.3 105.7	105.3 105.7	105.3 105.7
83110	11.9 101.2	101.7 102.1	42.1 102.1	42.1 102.1	105.5 105.7	105.5 105.7	105.5 105.7	105.5 105.7	105.5 105.7	105.5 105.7	105.5 105.7
83118	12.5 102.0	102.0 102.0	28.1 102.0	28.1 102.0	105.7 105.7	105.7 105.7	105.7 105.7	105.7 105.7	105.7 105.7	105.7 105.7	105.7 105.7
83100	12.0 102.2	102.2 102.5	12.0 102.2	12.0 102.5	107.0 107.0	107.0 107.0	107.0 107.0	107.0 107.0	107.0 107.0	107.0 107.0	107.0 107.0
83106	12.5 102.7	102.7 103.0	12.5 102.7	12.5 103.0	105.9 105.9	105.9 105.9	105.9 105.9	105.9 105.9	105.9 105.9	105.9 105.9	105.9 105.9
83102	12.0 102.5	102.5 102.8	12.0 102.5	12.0 102.8	105.7 105.7	105.7 105.7	105.7 105.7	105.7 105.7	105.7 105.7	105.7 105.7	105.7 105.7
83104	12.5 102.6	102.6 102.9	12.5 102.6	12.5 102.9	105.6 105.6	105.6 105.6	105.6 105.6	105.6 105.6	105.6 105.6	105.6 105.6	105.6 105.6
83108	12.0 102.4	102.4 102.7	12.0 102.4	12.0 102.7	105.5 105.5	105.5 105.5	105.5 105.5	105.5 105.5	105.5 105.5	105.5 105.5	105.5 105.5
83109	12.5 102.3	102.3 102.6	12.5 102.3	12.5 102.6	105.4 105.4	105.4 105.4	105.4 105.4	105.4 105.4	105.4 105.4	105.4 105.4	105.4 105.4
83110	12.0 102.2	102.2 102.5	12.0 102.2	12.0 102.5	105.3 105.3	105.3 105.3	105.3 105.3	105.3 105.3	105.3 105.3	105.3 105.3	105.3 105.3
83112	12.5 102.1	102.1 102.4	12.5 102.1	12.5 102.4	105.2 105.2	105.2 105.2	105.2 105.2	105.2 105.2	105.2 105.2	105.2 105.2	105.2 105.2
83113	12.0 102.0	102.0 102.3	12.0 102.0	12.0 102.3	105.1 105.1	105.1 105.1	105.1 105.1	105.1 105.1	105.1 105.1	105.1 105.1	105.1 105.1
83114	12.5 101.9	101.9 102.2	12.5 101.9	12.5 102.2	105.0 105.0	105.0 105.0	105.0 105.0	105.0 105.0	105.0 105.0	105.0 105.0	105.0 105.0
83115	12.0 101.8	101.8 102.1	12.0 101.8	12.0 102.1	104.9 104.9	104.9 104.9	104.9 104.9	104.9 104.9	104.9 104.9	104.9 104.9	104.9 104.9
83116	12.5 101.7	101.7 102.0	12.5 101.7	12.5 102.0	104.8 104.8	104.8 104.8	104.8 104.8	104.8 104.8	104.8 104.8	104.8 104.8	104.8 104.8
83117	12.0 101.6	101.6 101.9	12.0 101.6	12.0 101.9	104.7 104.7	104.7 104.7	104.7 104.7	104.7 104.7	104.7 104.7	104.7 104.7	104.7 104.7
83118	12.5 101.5	101.5 101.8	12.5 101.5	12.5 101.8	104.6 104.6	104.6 104.6	104.6 104.6	104.6 104.6	104.6 104.6	104.6 104.6	104.6 104.6
83119	12.0 101.4	101.4 101.7	12.0 101.4	12.0 101.7	104.5 104.5	104.5 104.5	104.5 104.5	104.5 104.5	104.5 104.5	104.5 104.5	104.5 104.5
83120	12.5 101.3	101.3 101.6	12.5 101.3	12.5 101.6	104.4 104.4	104.4 104.4	104.4 104.4	104.4 104.4	104.4 104.4	104.4 104.4	104.4 104.4
83121	12.0 101.2	101.2 101.5	12.0 101.2	12.0 101.5	104.3 104.3	104.3 104.3	104.3 104.3	104.3 104.3	104.3 104.3	104.3 104.3	104.3 104.3
83122	12.5 101.1	101.1 101.4	12.5 101.1	12.5 101.4	104.2 104.2	104.2 104.2	104.2 104.2	104.2 104.2	104.2 104.2	104.2 104.2	104.2 104.2
83123	12.0 101.0	101.0 101.3	12.0 101.0	12.0 101.3	104.1 104.1	104.1 104.1	104.1 104.1	104.1 104.1	104.1 104.1	104.1 104.1	104.1 104.1
83124	12.5 100.9	100.9 101.2	12.5 100.9	12.5 101.2	104.0 104.0	104.0 104.0	104.0 104.0	104.0 104.0	104.0 104.0	104.0 104.0	104.0 104.0
83125	12.0 100.8	100.8 101.1	12.0 100.8	12.0 101.1	103.9 103.9	103.9 103.9	103.9 103.9	103.9 103.9	103.9 103.9	103.9 103.9	103.9 103.9
83126	12.5 100.7	100.7 101.0	12.5 100.7	12.5 101.0	103.8 103.8	103.8 103.8	103.8 103.8	103.8 103.8	103.8 103.8	103.8 103.8	103.8 103.8
83127	12.0 100.6	100.6 100.9	12.0 100.6	12.0 100.9	103.7 103.7	103.7 103.7	103.7 103.7	103.7 103.7	103.7 103.7	103.7 103.7	103.7 103.7
83128	12.5 100.5	100.5 100.8	12.5 100.5	12.5 100.8	103.6 103.6	103.6 103.6	103.6 103.6	103.6 103.6	103.6 103.6	103.6 103.6	103.6 103.6
83129	12.0 100.4	100.4 100.7	12.0 100.4	12.0 100.7	103.5 103.5	103.5 103.5	103.5 103.5	103.5 103.5	103.5 103.5	103.5 103.5	103.5 103.5
83130	12.5 100.3	100.3 100.6	12.5 100.3	12.5 100.6	103.4 103.4	103.4 103.4	103.4 103.4	103.4 103.4	103.4 103.4	103.4 103.4	103.4 103.4
83131	12.0 100.2	100.2 100.5	12.0 100.2	12.0 100.5	103.3 103.3	103.3 103.3	103.3 103.3	103.3 103.3	103.3 103.3	103.3 103.3	103.3 103.3
83132	12.5 100.1	100.1 100.4	12.5 100.1	12.5 100.4	103.2 103.2	103.2 103.2	103.2 103.2	103.2 103.2	103.2 103.2	103.2 103.2	103.2 103.2
83133	12.0 100.0	100.0 100.3	12.0 100.0	12.0 100.3	103.1 103.1	103.1 103.1	103.1 103.1	103.1 103.1	103.1 103.1	103.1 103.1	103.1 103.1
83134	12.5 99.9	99.9 100.2	12.5 99.9	12.5 100.2	103.0 103.0	103.0 103.0	103.0 103.0	103.0 103.0	103.0 103.0	103.0 103.0	103.0 103.0
83135	12.0 99.8	99.8 100.1	12.0 99.8	12.0 100.1	102.9 102.9	102.9 102.9	102.9 102.9	102.9 102.9	102.9 102.9	102.9 102.9	102.9 102.9
83136	12.5 99.7	99.7 100.0	12.5 99.7	12.5 100.0	102.8 102.8	102.8 102.8	102.8 102.8	102.8 102.8	102.8 102.8	102.8 102.8	102.8 102.8
83137	12.0 99.6	99.6 99.9	12.0 99.6	12.0 99.9	102.7 102.7	102.7 102.7	102.7 102.7	102.7 102.7	102.7 102.7	102.7 102.7	102.7 102.7
83138	12.5 99.5	99.5 99.8	12.5 99.5	12.5 99.8	102.6 102.6	102.6 102.6	102.6 102.6	102.6 102.6	102.6 102.6	102.6 102.6	102.6 102.6
83139	12.0 99.4	99.4 99.7	12.0 99.4	12.0 99.7	102.5 102.5	102.5 102.5	102.5 102.5	102.5 102.5	102.5 102.5	102.5 102.5	102.5 102.5
83140	12.5 99.3	99.3 99.6	12.5 99.3	12.5 99.6	102.4 102.4	102.4 102.4	102.4 102.4	102.4 102.4	102.4 102.4	102.4 102.4	102.4 102.4
83141	12.0 99.2	99.2 99.5	12.0 99.2	12.0 99.5	102.3 102.3	102.3 102.3	102.3 102.3	102.3 102.3	102.3 102.3	102.3 102.3	102.3 102.3
83142	12.5 99.1	99.1 99.4	12.5 99.1	12.5 99.4	102.2 102.2	102.2 102.2	102.2 102.2	102.2 102.2	102.2 102.2	102.2 102.2	102.2 102.2
83143	12.0 99.0	99.0 99.3	12.0 99.0	12.0 99.3	102.1 102.1	102.1 102.1	102.1 102.1	102.1 102.1	102.1 102.1	102.1 102.1	102.1 102.1
83144	12.5 98.9	98.9 99.2	12.5 98.9	12.5 99.2	102.0 102.0	102.0 102.0	102.0 102.0	102.0 102.0	102.0 102.0	102.0 102.0	102.0 102.0
83145	12.0 98.8	98.8 99.1	12.0 98.8	12.0 99.1	101.9 101.9	101.9 101.9	101.9 101.9	101.9 101.9	101.9 101.9	101.9 101.9	101.9 101.9
83146	12.5 98.7	98.7 98.9	12.5 98.7	12.5 98.9	101.8 101.8	101.8 101.8	101.8 101.8	101.8 101.8	101.8 101.8	101.8 101.8	101.8 101.8
83147	12.0 98.6	98.6 98.8	12.0 98.6	12.0 98.8	101.7 101.7	101.7 101.7	101.7 101.7	101.7 101.7	101.7 101.7	101.7 101.7	101.7 101.7
83148	12.5 98.5	98.5 98.7	12.5 98.5	12.5 98.7	101.6 101.6	101.6 101.6	101.6 101.6	101.6 101.6	101.6 101.6	101.6 101.6	101.6 101.6
83149	12.0 98.4	98.4 98.6	12.0 98.4	12.0 98.6	101.5 101.5	101.5 101.5	101.5 101.5	101.5 101.5	101.5 101.5	101.5 101.5	101.5 101.5
83150	12.5 98.3	98.3 98.5	12.5 98.3	12.5 98.5	101.4 101.4	101.4 101.4	101.4 101.4	101.4 101.4	101.4 101.4	101.4 101.4	101.4 101.4
83151	12.0 98.2	98.2 98.4	12.0 98.2	12.0 98.4	101.3 101.3	101.3 101.3	101.3 101.3	101.3 101.3	101.3 101.3	101.3 101.3	101.3 101.3
83152	12.5 98.1	98.1 98.3	12.5 98.1	12.5 98.3	101.2 101.2	101.2 101.2	101.2 101.2	101.2 101.2	101.2 101.2	101.2 101.2	101.2 101.2
83153	12.0 98.0	98.0 98.2	12.0 98.0	12.0 98.2	101.1 101.1	101.1 101.1	101.1 101.1	101.1 101.1	101.1 101.1	101.1 101.1	101.1 101.1
83154	12.5 97.9	97.9 98.1	12.5 97.9	12.5 98.1	101.0 101.0	101.0 101.0	101.0 101.0	101.0 101.0	101.0 101.0	101.0 101.0	101.0 101.0
83155	12.0 97.8	97.8 97.9	12.0 97.8	12.0 97.9	100.9 100.9	100.9 100.9	100.9 100.9	100.9 100.9	100.9 100.9	100.9 100.9	100.9 100.9
83156	12.5 97.7	97.7 97.8	12.5 97.7	12.5 97.8	100.8 100.8	100.8 100.8	100.8 100.8	100.8 100.8	100.8 100.8	100.8 100.8	100.8 100.8
83157	12.0 97.6	97.6 97.7	12.0 97.6	12.0 97.7	100.7 100.7	100.7 100.7	100.7 100.7	100.7 100.7	100.7 100.7	100.7 100.7	100.7 100.7
83158	12.5 97.5	97.5 97.6	12.5 97.5	12.5 97.6	100.6 100.6	100.6 100.6	100.6 100.6	100.6 100.6	100.6 100.6	100.6 100.6	100.6 100.6
83159	12.0 97.4	97.4 97.5	12.0 97.4	12.0 97.5	100.5 100.5	100.5 100.5	100.5 100.5				

LOREMA

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION LAT., LONG. (N.MI.)	POSITION ERROR (N.MI.)			48 HOUR FORECAST ERROR (N.MI.)			72 HOUR FORECAST ERROR (N.MI.)		
			LAT.	LONG.	LAT.	LONG.	LAT.	LONG.	LAT.	LONG.	LAT.
7 600	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0
7 606	15, 4	100, 0	15, 5	100, 0	15, 8	101, 0	49, 7	102, 2	65,	16, 4	105, 1
7 612	15, 3	100, 3	15, 5	100, 5	15, 5	100, 5	12, 0	103, 6	162,	18, 8	106, 0
7 618	15, 3	100, 5	15, 5	100, 5	15, 5	100, 8	15, 9	101, 8	35,	16, 6	104, 3
7 700	15, 2	100, 8	15, 5	100, 5	15, 6	102, 0	24, 8	102, 0	24,	16, 8	104, 1
7 706	15, 2	101, 0	15, 2	101, 2	11, 3	103, 5	15, 9	103, 5	41,	17, 2	105, 9
7 712	15, 3	101, 3	15, 1	101, 6	20, 8	103, 4	42,	103, 4	42,	16, 9	105, 3
7 718	15, 4	101, 5	15, 4	101, 5	0, 0	15, 9	103, 2	83,	17, 3	105, 9	165,
7 800	15, 5	102, 0	15, 6	102, 0	6, 0	16, 1	103, 6	141,	17, 1	105, 8	253,
7 806	15, 9	102, 9	15, 8	102, 8	8, 2	17, 2	105, 8	68,	18, 7	108, 9	105,
7 812	16, 5	103, 8	16, 2	103, 4	28, 7	17, 6	106, 3	88,	19, 0	108, 9	140,
7 818	17, 1	104, 7	16, 8	104, 3	28, 7	18, 8	107, 2	54,	20, 4	110, 3	79,
7 900	17, 6	105, 5	17, 8	105, 3	16, 3	19, 9	109, 0	21,	21, 6	112, 7	59,
7 906	18, 1	106, 3	18, 3	106, 1	16, 3	20, 5	109, 5	37,	22, 1	112, 0	78,
7 912	18, 6	107, 2	18, 9	107, 0	21, 1	20, 9	109, 9	48,	22, 5	112, 4	102,
7 918	19, 0	108, 2	19, 1	108, 1	8, 2	20, 8	111, 5	8,	22, 3	114, 6	36,
91000	19, 6	109, 3	19, 7	109, 3	6, 0	21, 4	112, 9	57,	23, 0	115, 8	48,
91006	20, 0	110, 0	20, 1	110, 0	6, 0	22, 0	113, 6	59,	23, 5	116, 7	54,
91012	20, 3	110, 6	20, 5	110, 7	18, 8	22, 4	113, 5	62,	24, 3	115, 4	174,
91018	20, 7	111, 5	20, 9	111, 6	13, 2	22, 6	114, 6	54,	24, 0	116, 9	127,
91100	20, 9	112, 2	20, 8	112, 1	8, 1	22, 0	114, 7	57,	23, 2	117, 0	166,
91106	21, 1	113, 0	21, 2	113, 0	6, 0	22, 2	115, 8	60,	23, 7	118, 3	152,
91112	21, 4	113, 8	21, 4	113, 8	0, 0	22, 2	116, 7	36,	24, 3	115, 4	174,
91118	21, 7	114, 7	21, 7	114, 6	5, 4	22, 3	117, 8	63,	25, 8	120, 4	147,
91200	22, 1	115, 7	22, 2	115, 7	6, 0	24, 0	119, 2	70,	25, 9	121, 5	131,
91206	22, 5	116, 8	22, 6	116, 8	6, 0	24, 3	120, 4	74,	25, 1	122, 8	136,
91212	22, 6	117, 9	22, 9	118, 1	16, 2	24, 1	122, 3	57,	25, 8	125, 0	45,
91218	22, 9	118, 9	22, 8	118, 8	8, 1	23, 8	122, 6	42,	25, 4	125, 7	0,
91300	23, 1	120, 0	23, 1	120, 0	0, 0	24, 0	124, 7	71,	24, 9	129, 2	0,
91306	23, 5	121, 1	23, 2	121, 0	18, 8	24, 5	125, 0	45,	0, 0	0, 0	0,
91312	24, 0	122, 1	23, 4	121, 6	45, 0	24, 6	125, 0	61,	0, 0	0, 0	0,
91318	24, 5	123, 1	24, 4	123, 0	8, 1	0, 0	0, 0	0,	0, 0	0, 0	0,
91400	24, 9	124, 0	25, 0	124, 0	6, 0	0, 0	0, 0	0,	0, 0	0, 0	0,
91406	25, 1	124, 9	25, 2	125, 0	22, 5	0, 0	0, 0	0,	0, 0	0, 0	0,
91412	25, 3	125, 8	25, 4	125, 7	8, 1	0, 0	0, 0	0,	0, 0	0, 0	0,
91418	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0,	0, 0	0, 0	0,

TABLE 16.
MEAN VECTOR ERRORS (N.MI.)
NUMBER OF CASES61,
30153,
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DATE/TIME (MM/DD)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION LAT., LONG., (N, M.I.)	24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST		
			POSITION ERROR (N, M.I.)	LAT., LONG., (N, M.I.)	ERROR (N, M.I.)	POSITION ERROR (N, M.I.)	LAT., LONG., (N, M.I.)	ERROR (N, M.I.)	POSITION ERROR (N, M.I.)	LAT., LONG., (N, M.I.)	ERROR (N, M.I.)
71200	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0
91206	11, 0	99, 2	12, 0	99, 2	6, 0	12, 2	102, 4	102, 4	16, 0	110, 9	4, 6
91212	12, 10	100, 4	12, 2	99, 9	13, 0	103, 2	37,	14, 9	106, 3	63,	4, 6
91218	12, 7	100, 9	12, 9	100, 9	13, 0	104, 2	74,	13, 3	107, 4	108,	47,
91300	13, 0	101, 0	13, 4	102, 6	26, 6	105, 3	105, 9	17, 7	107, 5	110, 8	70,
91306	13, 3	102, 9	13, 6	103, 2	29, 4	107, 4	124,	16, 2	114, 5	112, 1	204,
91312	13, 4	103, 7	13, 4	103, 8	18, 6	107, 2	58,	14, 4	110, 9	115, 1	166,
91318	13, 5	104, 4	13, 5	104, 5	14, 7	108, 3	48,	15, 5	112, 4	100,	167,
91400	13, 6	105, 4	13, 7	105, 4	8, 3	108, 4	54,	15, 3	112, 5	84,	190,
91406	13, 6	105, 8	13, 8	105, 10	17, 0	108, 10	54,	15, 9	114, 4	17, 0	115, 7
91412	14, 0	106, 0	14, 0	106, 2	26, 0	108, 9	104,	15, 4	111, 9	17, 5	114, 5
91418	14, 1	106, 7	14, 5	107, 5	16, 5	108, 8	53,	17, 4	113, 9	16, 7	116, 2
91500	15, 0	108, 0	15, 1	108, 0	6, 0	112, 0	24,	18, 7	115, 0	18, 7	115, 7
91506	15, 0	109, 0	15, 5	109, 4	8, 4	112, 0	26,	18, 7	115, 0	20, 0	118, 9
91512	15, 0	109, 7	15, 6	110, 1	8, 1	113, 0	34,	20, 2	116, 8	21, 6	120, 0
91518	15, 1	110, 7	15, 7	110, 5	12, 0	113, 0	104,	20, 5	118, 6	16, 6	215,
91600	16, 0	111, 0	16, 0	111, 0	16, 0	112, 0	104,	19, 6	119, 0	19, 5	215,
91606	16, 0	111, 2	16, 2	111, 2	16, 2	112, 0	108,	19, 6	119, 0	20, 6	266,
91612	16, 0	111, 5	16, 5	111, 5	16, 5	112, 0	106,	19, 7	115, 0	19, 7	232,
91618	16, 0	111, 7	16, 7	111, 7	16, 7	112, 0	104,	20, 2	116, 8	21, 6	232,
91700	16, 1	112, 0	16, 2	112, 0	16, 2	112, 0	104,	19, 6	119, 0	22, 3	121, 7
91706	16, 1	112, 2	16, 3	112, 0	16, 3	112, 0	106,	19, 7	119, 0	20, 6	122, 1
91712	16, 1	112, 5	16, 5	112, 5	16, 5	112, 0	104,	19, 7	118, 1	20, 7	120, 4
91718	16, 1	112, 7	16, 7	112, 7	16, 7	112, 0	104,	19, 7	117, 0	21, 2	120, 1
91800	16, 2	113, 0	16, 4	113, 2	16, 4	112, 0	104,	19, 7	117, 5	21, 4	120, 1
91806	16, 2	113, 2	16, 6	113, 4	16, 6	112, 0	104,	19, 7	117, 5	21, 4	120, 1
91812	16, 2	113, 5	16, 8	113, 5	16, 8	112, 0	104,	19, 7	118, 0	21, 4	120, 1
91818	16, 2	113, 7	16, 8	113, 7	16, 8	112, 0	104,	19, 7	118, 0	21, 4	120, 1
91900	16, 3	114, 0	16, 9	114, 2	17, 0	114, 0	104,	20, 0	118, 0	21, 4	120, 1
91906	16, 3	114, 2	16, 9	114, 4	17, 0	114, 0	104,	20, 0	118, 0	21, 4	120, 1
91912	16, 3	114, 5	16, 9	114, 5	17, 0	114, 0	104,	20, 0	118, 0	21, 4	120, 1
92000	16, 4	114, 7	16, 9	114, 7	17, 0	114, 0	104,	20, 0	118, 0	21, 4	120, 1
92006	16, 4	114, 9	16, 9	114, 9	17, 0	114, 0	104,	20, 0	118, 0	21, 4	120, 1
92012	16, 4	115, 1	16, 7	115, 1	16, 7	114, 0	104,	20, 0	118, 0	21, 4	120, 1
92018	16, 4	115, 3	16, 7	115, 3	16, 7	114, 0	104,	20, 0	118, 0	21, 4	120, 1

MEAN VECTOR ERRORS (N, M.I.)
NUMBERS OF CASES

1977.
22
143.
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TABLE 17.

NARIA

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION LAT., LONG.		24 HOUR FORECAST POSITION LAT., LONG.		48 HOUR FORECAST POSITION LAT., LONG.		72 HOUR FORECAST POSITION LAT., LONG.	
		ERROR (N.MI.)	ERROR (N.MI.)	ERROR (N.MI.)	ERROR (N.MI.)	ERROR (N.MI.)	ERROR (N.MI.)	ERROR (N.MI.)	ERROR (N.MI.)
92100	15.1 112.0	15.1 112.0	0.0	15.9 115.9	27.	17.0 119.3	58.	18.1 122.1	155.
92106	15.2 112.9	15.5 112.5	29.2	16.0 115.7	63.	16.8 118.8	117.	17.7 121.9	175.
92112	15.4 113.8	15.8 113.9	24.7	16.3 116.4	74.	16.8 120.3	63.	17.7 123.2	138.
92118	15.5 114.7	15.6 114.7	6.0	16.1 116.4	34.	27.4 122.0	679.	18.3 125.3	145.
92200	15.5 115.7	15.5 115.7	0.0	15.6 116.7	19.	16.5 122.9	50.	18.2 125.7	140.
92206	15.5 116.7	15.6 116.7	6.0	15.8 120.4	13.	16.5 123.8	46.	17.8 126.8	117.
92212	15.6 117.7	15.7 117.9	12.9	16.2 121.8	21.	17.1 125.2	78.	18.2 128.2	127.
92218	15.7 118.6	15.8 118.9	18.2	16.1 122.7	6.	17.1 126.4	85.	18.0 129.2	99.
92300	15.8 119.6	15.9 119.6	6.0	15.9 123.1	23.	16.3 126.4	19.	17.1 130.0	58.
92306	15.8 120.6	15.9 120.6	6.0	16.3 124.1	27.	16.9 127.5	54.	17.8 130.4	108.
92312	15.9 121.5	16.0 121.5	6.0	16.5 124.8	36.	17.0 128.6	54.	17.5 132.1	63.
92318	16.0 122.5	16.1 122.6	8.3	16.4 126.9	81.	16.5 130.6	58.	16.3 134.8	32.
92400	15.9 123.5	15.9 123.5	0.0	15.4 127.4	63.	15.3 130.7	66.	15.7 134.0	136.
92406	15.9 124.3	15.9 124.3	0.0	15.9 128.0	24.	16.0 131.4	35.	16.4 134.8	154.
92412	15.9 125.0	15.9 124.7	17.2	15.9 128.0	34.	16.0 131.3	96.	16.1 134.7	257.
92418	15.9 125.9	15.9 125.6	11.5	16.1 128.8	49.	16.2 131.9	159.	16.3 135.1	0.
92500	16.0 126.6	16.0 126.5	5.7	15.9 130.0	50.	15.9 133.5	156.	15.8 137.0	0.
92506	16.0 127.5	16.0 127.6	5.7	16.4 131.2	29.	16.3 134.3	183.	16.1 137.8	0.
92512	16.1 128.5	16.1 128.5	0.0	16.1 132.4	43.	16.0 136.5	164.	15.9 140.8	0.
92518	16.4 129.6	16.4 129.6	0.0	17.0 133.7	53.	17.1 137.6	0.	17.1 141.5	0.
92600	16.4 130.7	16.4 130.7	0.0	16.7 134.8	70.	16.7 138.6	0.	16.6 142.8	0.
92606	16.5 131.9	16.5 131.7	11.5	16.7 135.7	99.	0.0	0.	0.0	0.
92612	16.6 133.2	16.7 132.8	23.8	17.2 136.8	126.	0.0	0.	0.0	0.
92618	16.8 134.6	16.8 134.6	0.0	17.1 140.2	0.	0.0	0.	0.0	0.
92700	16.9 135.0	16.9 135.0	0.0	17.5 141.7	0.	18.5 144.7	0.	19.9 147.7	0.
92706	17.1 137.5	17.0 137.4	8.3	17.6 143.1	0.	0.0	0.	0.0	0.
92712	17.3 139.3	17.3 139.0	0.0	18.1 144.3	0.	0.0	0.	0.0	0.
92718	0.0 0.0	0.0 0.0	0.0	0.0 0.0	0.	0.0	0.	0.0	0.

MEAN VECTOR ERRORS (N.MI)
NUMBER OF CASES

47.
23

117.
19

127.
15

TABLE 18.

OCTAVE

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION ERROR, (N.MI.)	24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST		
			LAT.	LONG.	ERROR (N.MI.)	LAT.	LONG.	ERROR (N.MI.)	LAT.	LONG.	ERROR (N.MI.)
92750	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92706	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92712	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92718	11.8	118.3	11.6	118.2	5.8	13.1	122.9	90.	14.4	126.2	311.
92800	12.2	119.4	12.0	119.5	13.3	13.1	123.5	126.	14.5	126.8	346.
92806	12.6	120.3	12.0	120.0	39.9	13.3	123.6	210.	14.5	126.7	374.
92812	12.9	121.1	12.5	121.3	26.6	13.8	124.9	333.	15.1	127.9	443.
92818	13.3	121.7	13.9	121.6	24.6	16.6	123.4	167.	19.1	124.7	311.
92900	14.2	121.8	14.4	121.8	13.2	16.9	122.6	133.	19.3	123.0	227.
92906	14.6	121.9	15.5	120.9	81.1	18.2	118.6	172.	20.8	116.4	214.
92912	14.9	121.7	15.7	119.5	130.6	17.5	116.2	252.	19.7	112.9	393.
92918	15.1	121.4	15.2	120.9	28.3	16.5	119.4	92.	18.5	115.8	227.
93000	15.4	121.1	15.4	120.9	14.0	16.3	119.0	78.	17.5	116.7	303.
93006	15.7	120.8	15.9	120.4	25.1	18.2	117.8	68.	21.4	115.9	154.
93012	16.0	120.4	16.0	120.3	5.5	17.3	118.6	114.	19.3	117.2	288.
93018	16.4	118.8	16.5	120.0	12.6	19.2	117.3	143.	6.0	0.0	0.
10 100	17.6	116.4	17.5	116.5	10.1	20.4	117.7	121.	6.0	0.0	0.
10 106	18.5	117.0	18.2	116.0	18.0	21.9	116.2	120.	6.0	0.0	0.
10 112	18.9	118.7	19.0	118.7	7.7	22.8	116.5	92.	6.0	0.0	0.
10 118	21.3	118.5	21.3	118.5	6.0	26.0	117.5	9.	6.0	0.0	0.
10 200	22.3	117.9	22.4	118.0	8.2	27.7	115.6	6.	6.0	0.0	0.
10 206	23.2	117.6	23.5	117.5	18.9	28.7	115.2	6.	6.0	0.0	0.
10 212	24.0	117.3	24.1	117.4	8.2	30.0	0.0	6.	6.0	0.0	0.
10 218	24.6	0.0	0.0	0.0	0.0	0.0	0.0	0.	6.0	0.0	0.

MEAN VECTOR ERRORS (N.MI)
NUMBER OF CASES

449,
16
12

447,
16
12

TABLE 19.

299,
8

FRISCILLA

DATE/TIME (GHT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION LAT., LONG. (N.MI.)	24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST		
			POSITION ERROR (N.MI.)	LAT., LONG. (N.MI.)	LAT., LONG. (N.MI.)	POSITION ERROR (N.MI.)	LAT., LONG. (N.MI.)	LAT., LONG. (N.MI.)	POSITION ERROR (N.MI.)	LAT., LONG. (N.MI.)	LAT., LONG. (N.MI.)
73000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93018	11.8	108.6	11.7	108.5	8.3	12.5	111.8	27.	13.7	115.0	15.0
10 100	12.0	109.3	11.6	109.0	29.6	12.0	111.7	80.	13.3	115.2	40.
10 106	12.2	110.0	12.3	110.0	6.0	13.8	113.5	36.	15.5	116.8	85.
10 112	12.5	110.7	12.7	111.0	21.0	14.1	114.5	36.	15.5	117.5	70.
10 118	12.7	111.6	12.9	111.6	12.0	14.1	114.7	30.	15.6	117.4	48.
10 206	12.9	112.7	13.0	112.6	8.2	14.0	116.0	30.	15.3	119.1	52.
10 206	13.2	113.6	13.2	113.5	5.7	14.5	117.2	61.	15.9	119.7	79.
10 212	13.4	114.2	13.5	114.4	12.8	14.8	118.0	58.	16.3	121.1	150.
10 218	13.6	114.9	13.7	115.0	8.2	14.9	117.9	24.	16.2	120.0	96.
10 300	13.8	115.5	13.9	115.5	6.0	15.0	118.2	12.	16.5	120.7	145.
10 306	14.1	116.2	14.2	116.2	6.0	15.7	118.7	21.	17.2	120.8	154.
10 312	14.4	116.9	14.4	117.1	11.2	15.1	120.2	125.	16.2	122.1	298.
10 318	14.7	117.5	14.8	117.5	5.5	16.0	119.9	102.	17.8	121.6	241.
10 400	15.1	118.1	15.2	118.2	8.1	17.1	120.5	112.	19.3	122.1	223.
10 406	15.4	118.4	15.5	118.4	6.0	17.2	120.0	131.	19.8	121.2	229.
10 412	15.4	118.7	16.4	118.5	10.9	19.6	119.9	36.	22.0	119.0	196.
10 418	17.4	119.0	17.4	118.9	5.5	21.8	116.9	51.	25.3	116.3	261.
10 500	18.4	119.1	18.3	119.0	8.1	22.2	118.3	90.	25.9	117.0	197.
10 506	19.3	119.3	19.2	119.1	12.5	23.0	118.2	114.	26.7	115.2	0.
10 512	20.2	119.4	20.2	119.0	21.9	24.1	117.7	184.	27.0	115.1	0.
10 518	21.4	119.7	21.4	119.7	0.0	25.1	119.4	113.	0.0	0.0	0.
10 600	22.5	120.0	22.4	119.9	8.1	26.8	120.0	27.	0.0	0.0	0.
10 606	23.6	120.5	23.5	120.2	17.5	28.1	120.5	0.	0.0	0.0	0.
10 612	24.9	120.9	24.7	121.0	13.2	0.0	0.0	0.	0.0	0.0	0.
10 618	26.0	120.9	26.3	121.0	18.8	0.0	0.0	0.	0.0	0.0	0.
10 700	26.9	120.5	26.9	120.5	0.0	0.0	0.0	0.	0.0	0.0	0.
10 706	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.
10 712	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.
10 718	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.

MEAN VECTOR ERRORS (N.MI.)
NUMBER OF CASES

68,
22

231,
14

RAYFORD

DATE, TIME (GMT)	SECT	TRACE	POSITION LAT., LONG. (N.MI.)	OPERATIONAL POSITION			24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST		
				ERROR (N.MI.)	LAT.	LONG.	ERROR (N.MI.)	LAT.	LONG.	ERROR (N.MI.)	LAT.	LONG.	ERROR (N.MI.)	LAT.	LONG.
10 200	0.0	0.0	0.0	0.0	105.0	50.1	0.0	109.1	144.	0.0	113.0	15.0	0.0	116.0	16.1
10 206	12.4	104.4	13.0	0.0	105.0	50.1	12.2	109.4	56.	12.3	113.8	41.	12.9	118.7	143.
10 612	12.3	105.1	12.2	0.0	105.2	50.4	12.3	109.5	59.	12.3	113.2	241.	12.4	116.0	399.
10 618	12.3	105.0	12.3	0.0	105.9	50.9	12.0	109.6	117.	12.6	112.5	308.	12.7	115.8	498.
10 209	12.3	106.4	12.5	0.0	106.4	52.0	12.5	109.4	164.	12.1	112.8	387.	12.1	115.6	621.
10 706	12.3	107.4	12.5	0.0	107.1	51.7	12.5	110.0	124.	12.5	117.0	240.	12.8	121.6	356.
10 912	12.3	108.6	12.5	0.0	108.5	53.3	12.5	112.4	120.	12.8	118.3	263.	13.3	122.0	435.
10 918	12.3	109.8	12.4	0.0	109.8	54.0	12.4	114.3	120.	12.8	118.3	263.	12.3	125.6	373.
101000	12.2	110.5	12.4	0.0	111.4	55.8	12.4	116.3	37.	12.3	121.0	199.	12.4	125.6	373.
101006	12.1	113.1	12.3	0.0	112.8	54.4	12.4	118.4	59.	13.0	121.2	238.	15.2	123.6	498.
101012	12.0	114.6	12.2	0.0	114.5	53.6	12.2	120.0	67.	12.9	124.0	219.	13.8	127.3	454.
101018	11.9	116.3	12.0	0.0	116.3	56.0	12.0	122.4	53.	13.0	127.4	137.	15.6	131.1	315.
101109	12.0	117.9	11.9	0.0	117.7	57.1	11.9	123.6	93.	12.1	128.3	226.	12.4	134.0	359.
101106	12.1	119.5	11.9	0.0	119.4	58.3	12.0	125.2	71.	13.6	129.5	197.	15.9	132.0	424.
101112	12.4	121.2	12.1	0.0	121.5	59.5	12.1	127.2	23.	15.0	131.9	183.	16.6	136.1	0.
101118	12.7	122.8	12.0	0.0	122.8	60.0	12.0	129.0	26.	15.6	135.0	99.	17.8	140.5	0.
101200	13.0	124.3	13.1	0.0	124.3	61.0	14.2	129.4	127.	15.0	134.3	250.	15.7	138.3	0.
101206	13.5	126.2	13.6	0.0	126.1	61.3	14.8	131.8	38.	15.4	135.7	208.	18.8	137.6	0.
101212	13.8	127.7	13.9	0.0	127.6	61.3	15.5	132.5	139.	17.0	135.3	0.	19.0	139.6	0.
101218	14.3	129.4	14.0	0.0	129.4	61.0	15.5	134.4	133.	16.4	138.2	0.	18.1	141.0	0.
101230	14.8	131.4	14.9	0.0	131.5	61.5	16.3	138.0	32.	17.7	142.5	0.	19.2	146.3	0.
101306	15.1	133.2	15.3	0.0	132.2	62.2	16.3	137.3	119.	16.9	142.4	0.	17.2	146.6	0.
101312	15.6	134.9	15.6	0.0	134.9	62.6	16.4	140.2	0.	17.0	144.2	0.	17.1	148.2	0.
101318	16.1	136.6	16.4	0.0	136.5	63.7	17.0	141.6	0.	18.7	145.1	0.	18.6	148.1	0.
101400	16.4	138.0	16.8	0.0	138.2	64.0	18.0	144.7	0.	20.1	149.4	0.	20.6	154.4	0.
101406	16.8	139.4	16.6	0.0	139.3	65.0	17.4	144.0	0.	17.0	145.8	0.	17.0	153.6	0.
101412	17.0	140.0	16.0	0.0	140.0	65.0	16.0	140.0	0.	16.0	140.0	0.	16.0	140.0	0.
101418	17.0	140.0	16.0	0.0	140.0	65.0	16.0	140.0	0.	16.0	140.0	0.	16.0	140.0	0.

MEAN VECTORS ERRORS (N.MI)
NUMBER OF CASES

399.
13
21
17

TABLE 21.

SONIA

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION LAT., LONG.		POSITION ERROR (N.MI.)		24 HOUR FORECAST LAT., LONG. (N.MI.)		48 HOUR FORECAST LAT., LONG. (N.MI.)		72 HOUR FORECAST LAT., LONG. (N.MI.)	
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 900	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 906	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 912	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 918	13.4	130.2	13.2	130.1	13.3	14.6	133.0	74.	15.8	135.4	209.
10100	13.8	131.0	13.9	130.7	18.4	15.8	132.4	183.	17.5	133.5	0.
10106	14.2	131.9	14.5	131.3	39.2	17.3	132.8	268.	20.0	133.7	0.
10112	14.5	132.9	14.9	132.9	24.0	17.5	135.2	212.	20.6	136.0	0.
10118	14.6	134.1	15.0	134.2	24.7	17.0	138.8	168.	0.0	0.0	0.
10110	14.6	135.2	14.6	135.3	5.8	0.0	0.0	0.	0.0	0.0	0.
10116	14.4	136.5	14.6	136.5	12.0	14.9	141.1	0.	0.0	0.0	0.
10112	14.3	137.6	14.6	137.3	25.0	15.0	141.0	0.	0.0	0.0	0.
10118	14.2	138.6	14.2	138.6	0.0	13.5	140.5	0.	0.0	0.0	0.

MEAN VECTOR ERRORS (N.MI)
NUMBER OF CASES

181,
5

209,
1

0,
0

TABLE 22.

TIME/TIME IGHT.	BEST TRACK LAT.	TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST		
					POSITION LAT.	POSITION LONG.	ERROR (NM, MI.)	POSITION LAT.	POSITION LONG.	ERROR (NM, MI.)	POSITION LAT.	POSITION LONG.	ERROR (NM, MI.)
101100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
101106	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
101112	3.5	100.4	3.5	101.4	58.0	102.0	0.3	104.8	168.	11.4	108.2	340.	14.2
101118	6.7	100.9	6.5	102.2	77.0	103.0	0.4	105.5	174.	9.7	107.5	466.	10.0
101200	9.0	101.4	8.7	103.0	93.7	104.7	0.2	106.3	252.	9.8	110.2	514.	10.3
101206	7.1	102.0	6.9	103.4	82.7	105.4	0.3	106.4	274.	10.0	107.5	483.	10.0
101212	9.4	102.6	9.3	102.9	92.8	102.0	0.1	104.3	122.	14.9	106.8	238.	15.2
101218	10.2	102.9	10.0	102.7	102.7	102.6	0.2	104.7	148.	13.8	107.1	253.	17.2
101300	11.2	102.9	11.6	102.8	102.8	104.7	0.3	104.3	193.6	18.0	105.7	174.	10.8
101306	12.1	102.9	12.1	102.8	102.8	105.7	0.4	105.5	58.	17.4	104.2	80.	19.4
101312	13.0	102.9	13.2	102.7	102.7	104.5	0.5	103.1	127.	0.0	0.0	0.0	0.0
101318	13.8	102.9	13.5	102.7	102.7	104.7	0.6	102.6	76.	0.0	0.0	0.0	0.0
101400	14.0	102.9	14.2	102.9	102.9	104.7	0.7	102.6	84.	0.0	0.0	0.0	0.0
101406	14.7	102.6	14.7	102.7	102.8	105.7	0.8	102.6	96.	0.0	0.0	0.0	0.0
101412	15.0	103.4	15.1	102.9	102.9	104.7	0.9	103.1	100.	0.0	0.0	0.0	0.0
101418	15.7	103.3	15.7	103.2	103.2	105.7	0.9	103.7	80.	19.6	104.0	211.	0.0
101500	16.1	103.6	16.0	103.6	103.6	105.6	0.9	104.3	61.	19.8	105.0	219.	0.0
101506	16.2	103.9	16.3	103.9	103.9	105.9	0.9	104.7	61.	19.5	105.4	209.	0.0
101512	16.3	104.2	16.4	104.4	104.3	106.4	0.2	105.7	17.	19.2	106.9	157.	20.7
101518	16.5	104.5	16.5	104.5	104.5	106.5	0.0	105.8	62.	19.3	106.8	194.	21.8
101600	16.8	104.9	16.7	104.8	104.8	106.6	0.2	106.6	71.	19.2	107.4	180.	21.1
101604	17.1	105.4	17.0	105.4	105.4	106.6	0.4	104.7	61.	19.5	105.4	209.	21.4
101612	17.2	106.0	17.5	105.9	105.9	106.8	0.5	107.2	162.	22.1	108.1	246.	25.2
101618	17.3	106.8	17.3	107.0	106.8	106.6	0.6	110.2	34.	18.1	114.5	249.	18.4
101700	17.4	107.4	17.5	107.5	107.5	107.8	0.7	110.2	110.2	110.2	115.0	347.	20.0
101704	17.5	108.4	17.6	108.4	108.4	108.4	0.6	110.8	75.	18.9	113.3	231.	17.9
101712	17.5	109.0	17.5	109.0	109.0	109.0	0.6	111.3	42.	19.4	114.3	347.	20.0
101718	17.6	109.7	17.6	109.7	109.7	109.7	0.6	112.0	163.	17.7	115.0	529.	17.9
101800	17.9	110.2	17.9	110.2	110.2	110.2	0.6	113.0	169.	18.8	115.7	6.	20.0
101804	18.3	110.4	18.3	110.4	110.4	110.4	0.6	112.5	184.	20.1	113.4	9.	21.3
101806	18.3	110.4	18.3	110.4	110.4	110.4	0.6	111.3	42.	19.4	114.3	347.	21.3
101812	18.6	110.4	18.6	110.4	110.4	110.4	0.6	112.0	163.	21.9	112.5	23.7	21.6
101818	19.3	110.2	19.1	110.2	110.2	110.2	0.6	112.0	163.	22.1	112.4	23.7	21.6
101900	20.1	110.5	19.5	110.5	110.5	110.5	0.6	112.0	163.	22.1	112.4	23.7	21.6
101904	21.1	108.5	21.1	108.5	108.5	108.5	0.6	106.1	0.	0.0	0.0	0.	0.
101912	22.3	107.0	22.3	107.0	107.0	107.0	0.6	106.1	0.	0.0	0.0	0.	0.
101916	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.

AVERAGE VECTOR ERRORS (NM, MI.)
NUMBER OF CASES

115.
29.

332.
26.

TABLE 23.

TWENTY TWO-E

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION		24 HOUR FORECAST		48 HOUR FORECAST		72 HOUR FORECAST	
		POSITION ERROR (N.MI.)	LAT., LONG.						
101800	14.3	100.0	14.0	100.0	18.0	16.2	102.8	0.	17.2
101806	15.6	101.0	15.7	101.0	6.0	0.0	0.0	0.	0.0
101812	17.0	102.0	17.1	102.0	6.0	0.0	0.0	0.	0.0
101818	18.0	102.7	0.0	0.0	0.0	0.0	0.0	0.	0.0
MEAN VECTOR ERRORS (N.MI)		0.		0.		0.		0.	
NUMBER OF CASES		0		0		0		0	

TABLE 24.

VELMA

DATE/TIME (GMT)	BEST TRACK LAT., LONG.	OPERATIONAL POSITION, LAT., LONG., (N.MI.)	POSITION			24 HOUR FORECAST			48 HOUR FORECAST			72 HOUR FORECAST				
			ERROR (N.MI.)	LAT., (N.MI.)	LONG., (N.MI.)	ERROR (N.MI.)										
11 109	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11 106	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11 112	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11 118	7.9	100.8	7.9	100.8	8.4	7.8	103.4	8.3	105.7	9.4	108.5	9.4	108.5	9.4	108.5	
11 209	7.9	101.6	7.7	101.5	13.4	8.1	104.1	21.1	106.9	9.1	110.0	9.1	110.0	9.1	110.0	
11 206	8.0	102.2	7.8	102.1	24.7	7.4	104.5	8.3	107.3	9.1	110.3	9.1	110.3	9.1	110.3	
11 212	8.0	103.1	7.4	102.5	50.7	7.4	104.8	0.	107.2	0.	110.1	0.	110.1	0.	110.1	
11 218	8.2	103.6	8.4	103.7	13.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11 300	8.3	104.4	8.3	104.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11 306	8.5	105.0	8.6	105.2	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11 312	8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11 318	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MEAN VECTOR ERRORS (N.MI)			48 HOURS			48 CASES			48 HOURS			48 CASES			48 CASES	
NUMBER OF CASES			0.			0.			0.			0.			0.	

TABLE 25.

WINNIE		OPERATIONAL POSITION LAT., LONG. (N.MI.)		POSITION ERROR (N.MI.)		24 HOUR FORECAST LAT., LONG. (N.MI.)		48 HOUR FORECAST LAT., LONG. (N.MI.)		72 HOUR FORECAST LAT., LONG. (N.MI.)	
DATE/TIME (GMT)	BEST TRACK LAT., LONG.	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0
12 400	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0
12 406	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0
12 412	12, 9	102, 9	12, 8	102, 9	6, 0	14, 6	103, 5	112,	16, 5	103, 6	38,
12 418	13, 9	103, 9	13, 9	103, 7	11, 4	18, 5	103, 8	107,	0, 0	0, 0	0, 0
12 500	14, 5	104, 3	14, 9	104, 5	26, 6	17, 8	105, 9	114,	20, 0	106, 2	219,
12 506	15, 3	104, 4	15, 3	104, 5	5, 7	18, 8	104, 6	112,	0, 0	0, 0	0, 0
12 512	16, 1	104, 2	16, 2	104, 5	18, 1	18, 7	103, 7	103,	0, 0	0, 0	0, 0
12 518	16, 6	104, 1	16, 7	104, 1	6, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0
12 600	17, 0	104, 1	17, 0	104, 1	0, 0	18, 9	103, 6	116,	0, 0	0, 0	0, 0
12 606	17, 0	104, 1	17, 0	104, 1	0, 0	18, 3	104, 1	78,	18, 9	104, 1	0*
12 612	17, 0	104, 1	17, 0	104, 0	5, 7	18, 9	103, 9	114,	0, 0	0, 0	0, 0
12 618	17, 0	104, 1	17, 0	104, 0	5, 7	18, 8	103, 8	0,	0, 0	0, 0	0, 0
12 700	17, 0	104, 1	17, 0	104, 0	5, 7	18, 2	103, 0	0,	0, 0	0, 0	0, 0
12 706	17, 0	104, 1	17, 0	104, 0	5, 7	18, 1	103, 1	0,	0, 0	0, 0	0, 0
12 712	17, 0	104, 1	17, 0	104, 0	5, 7	0, 0	0, 0	0,	0, 0	0, 0	0, 0
12 718	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0,	0, 0	0, 0	0,

MEAN VECTOR ERRORS (N.MI)
NUMBER OF CASES

107,
8
129,
2
0,
0

TABLE 26.

- 121 Climatological Prediction of Cumulonimbus Clouds in the Vicinity of the Yucca Flat Weather Station. R. F. Quiring, June 1977. (PB-271-704/AS)
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